Weekly Summary Report
USEPA Oversight, Sauget Area 2, Sauget, IL
WA No. 224-RXBF-05XX / Contract No. 68-W6-0025

Week Ending Friday July 16, 2004

This report summarizes the Interim Remedial Action (IRA) work conducted by Solutia and its contractors from July 10, 2004 through July 16, 2004 at Site R, Sauget Area 2. The current IRA fieldwork consists of site preparation, barrier wall trenching, and backfilling. Work was performed on Saturday July 10, and a second shift was started on July 13.

Contractors Onsite

Inquip Associates Inc. (barrier wall construction contractor)
PSI (geotechnical testing subcontractor)
URS (primary consultant for Solutia)

Work Performed This Week

Work during the week consisted of backfill placement and trench cleanout of the southern open trench segment and excavation of the northern open trench segment. Backfill was placed on six days during the week in the southern open trench segment and continues to stack at the trench terminus at station 5+00. The top surface of the backfill in the southeast end of the trench (station 5+30 to 5+00) was cleaned on these six days with the Liebherr 855 rig prior to backfill placement.

The Koehring 1266 trackhoe continued excavation throughout the week on the northern open trench segment, subsequently the Liebherr 853 hydraulic clamshell was used to excavated the trench to a greater depth. The Liebherr 843 clamshell rig requires further assembly and maintenance before it can be utilized.

Groundwater Migration Control System (GMCS)

The river elevation increased during the week from 395.77 feet above mean sea level (amsl) on July 9, 2004 to 397.77 feet amsl on July 16, 2004. Correspondingly, the combined flow rate of the extraction well system decreased from 864 gallons per minute (gpm) on July 9 to 807 gpm on July 16.

Eight barrier wall piezometers, with four inside and four outside the barrier wall alignment, monitored the groundwater water elevations adjacent to the barrier wall alignment during the week. Table 1 shows the river and piezometer water elevations measured on July 9, 2004 (2:00 PM).

Piezometer pair P1, located at the north end of Site R, showed water levels greater inside the barrier wall alignment than outside throughout the week; however, the wall is not yet constructed in this area. The P2 pair showed a outward gradient across the barrier wall the entire week. The piezometer pair P3 showed an outward gradient across the barrier wall during the early part of the week, but as the river elevation rose, transitioned to an inward

gradient during the latter part of the week. Piezometer pair P4 showed slightly higher water levels outside the barrier wall alignment throughout the week. However, the river elevation was generally 0.5 to 2.5 feet higher than water levels measured at all piezometers throughout the week, indicating an inward groundwater flow from the river toward Site R.

TABLE 1
River and Piezometer Water Elevations – July 16, 2004 (13:00)

	Elevation (ft above mean sea level)
River Level	397.18
Piezometer 1S – inside wall (northern-most pair)	394.56
Piezometer 1N – outside wall (northern-most pair)	393.64
Piezometer 2E – inside wall (north-central pair)	394.62
Piezometer 2W – outside wall (north-central pair)	394.14
Piezometer 3E – inside wall (south-central pair)	393.92
Piezometer 3W – outside wall (south-central pair)	393.24
Piezometer 4E – inside wall (southern-most pair)	393.64
Piezometer 4W – outside wall (southern-most pair)	394.56

Stormwater

No stormwater activity took place this week.

Slurry

Approximately 73 tons of bentonite gel were used to mix fresh slurry on three days during the week. The slurry, when pumped from the south holding pond to the northern open trench segment near station 24+50, was tested frequently to assess its viscosity and adjusted with a blending pump using water from the fire hydrant, as necessary. The viscosity of the slurry was measured using a Marsh funnel, with results generally meeting the specification.

Trench slurry was pumped from the top of the southern open trench, adjacent to the desander outlet, to the containment pond on top of the landfill. Trench slurry was then reused in the northern open trench segment.

Spoils Handling

During the week, spoils including previously placed backfill materials were transferred from adjacent to the northern open trench segment or from the temporary stockpile on top of the landfill to the backfill mix pad near station 12+40.

Barrier Wall Construction

Inquip continued excavation of the northern open trench along the barrier wall alignment from station 27+00 to station 28+50.

The southern open trench segment was closed during the week by approximately 205 linear feet of backfill material daylighting to ground surface. As of July 16, the southern open

trench segment was approximately 680 feet in length along the barrier wall alignment from station 5+00 at the southeast terminus of the wall, to station 12+20.

On each of the six days worked during the week, bentonite slurry was pumped into the northern open trench as needed to keep the excavation open. On five days during the week, slurry was pumped into the northern open excavation from the trench slurry containment pond located on top of the landfill. This slurry was recycled from the southern open excavation. In addition, fresh slurry was used to supplement the trench slurry on three days during the week as necessary.

Slurry samples were collected from the top and the bottom of the trench daily. Fresh and trench slurry samples were tested for viscosity, density (unit weight), filtrate loss, pH and sand content during the week. All the results either met the specifications or satisfied the quality targets. The mechanical desander operated on six days this week.

Inquip began running operations on a second shift on Tuesday, July 13. During the night shift, the Liebherr 853 hydraulic clamshell continued to excavate in the northern open trench, and slurry was pumped into the trench to keep the excavation open. No backfilling or other activities occurred during the night shift.

During the week, Inquip mixed and placed approximately 2,580 cubic yards of backfill material into the southern open trench segment. Backfill operations took place on six days during the week. Previously placed backfill, excavated from the northern open trench segment, was transported to the backfill mix pad near station 12+25. The backfill spoils were mixed with an additional proportion of dry bentonite or slurry as necessary to meet quality specifications. Additionally, spoils that were not previously mixed as backfill were utilized for backfill during the week.

The backfill was tested by PSI for slump, unit weight and moisture content. The unit weight of backfill placed during the week measured between 122 and 126 pounds per cubic foot (pcf). Slump test results were between 4 to 4.5 inches, and the moisture content results ranged from 20.0 to 25.3 percent. All test results met the minimum requirements. Tests on the backfill mixture to be conducted offsite by Mueser-Rutledge and PSI's labs included permeability and gradation.

Prior to backfill placement, the top of the backfill was cleaned over a 40-foot linear stretch using the clamshell rig. The downrigger was used to recheck the top of backfill depth. Two samples were collected by PSI with a clam sampler from the top of the backfill in the southern trench prior to backfill placement. These samples were visually checked to ensure that the backfill surface in the trench was clean and free of any sand.

During the week, the trench depths in the south open excavation were measured each afternoon while the trench depths in the north open excavation were measured each morning. The trench depth measurements from the profile measured on July 16 are shown in Table 2, and depicted in Graphs 1 and 2 (for the southern and northern open trench segments) in comparison to the trench depth profile measured on July 9. Graph 3 shows the overall progress of the barrier wall construction.

Other Activities

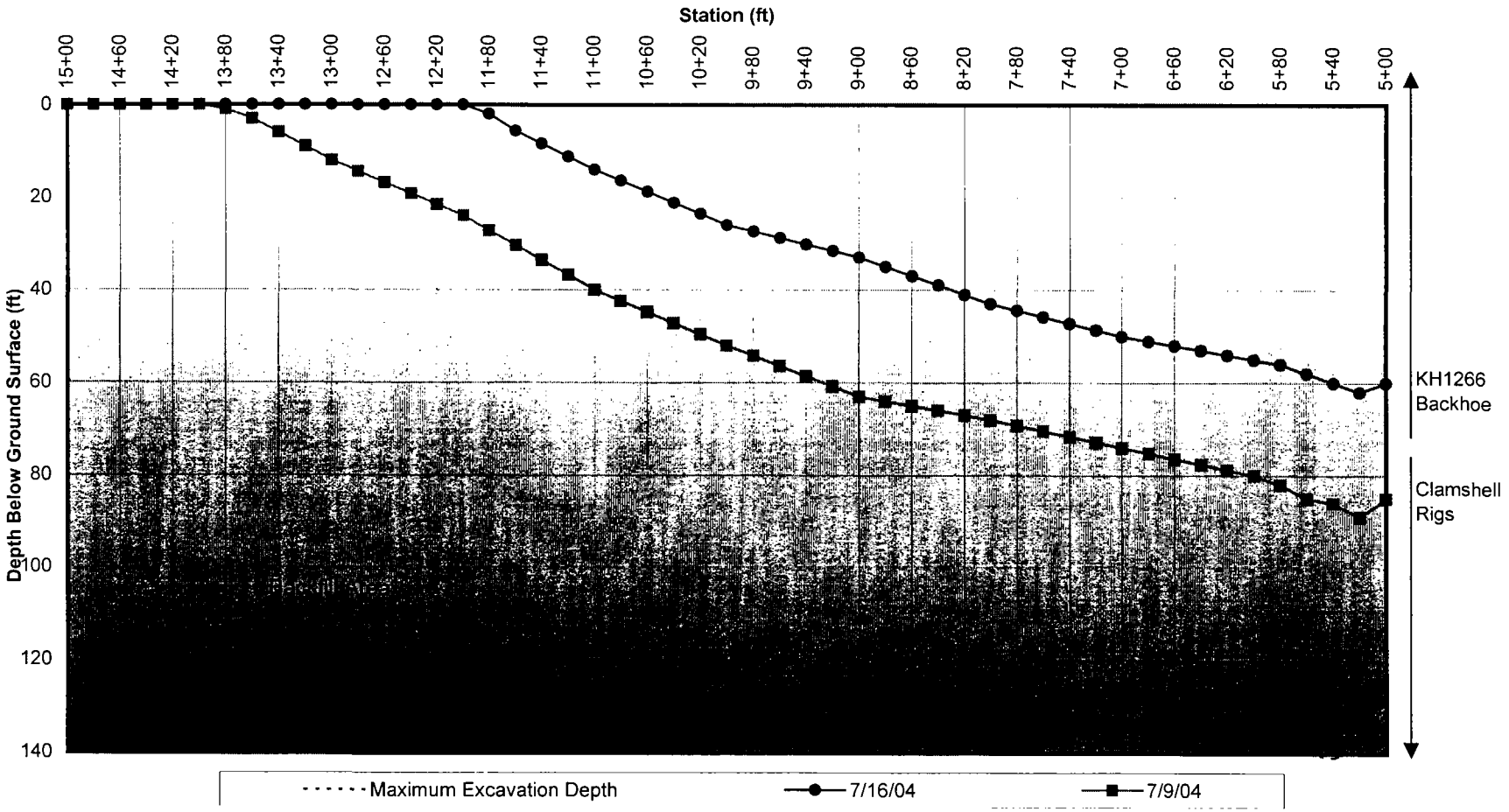
On the morning of July 16, organic compounds were detected by site personnel using a photoionization detector (PID); measurements of approximately 15 part per million (ppm) with an occasional spike up to 50 ppm were observed within the backfill mix pad directly next to the bulldozer blade. The detected organics were observed to dissipate quickly with

no sustained readings in the breathing zone. The spoils in use at this time were determined to originate from the area where the Koehring 1266 was excavating at station 28+00. On-site management and safety personnel decided to haul all spoils from this area to the temporary stockpile on top of the landfill instead of transporting them directly to the backfill mixing pad. The objective was to increase the time period before using these spoils to mix backfill, in order to allow the organic vapors to dissipate and minimize potential exposure of the operators mixing backfill. Operators involved in backfill mixing were also issued with respirators.

TABLE 2
Trench Profile (Downrigger Measurements) for the Barrier Wall Trench – July 16, 2004

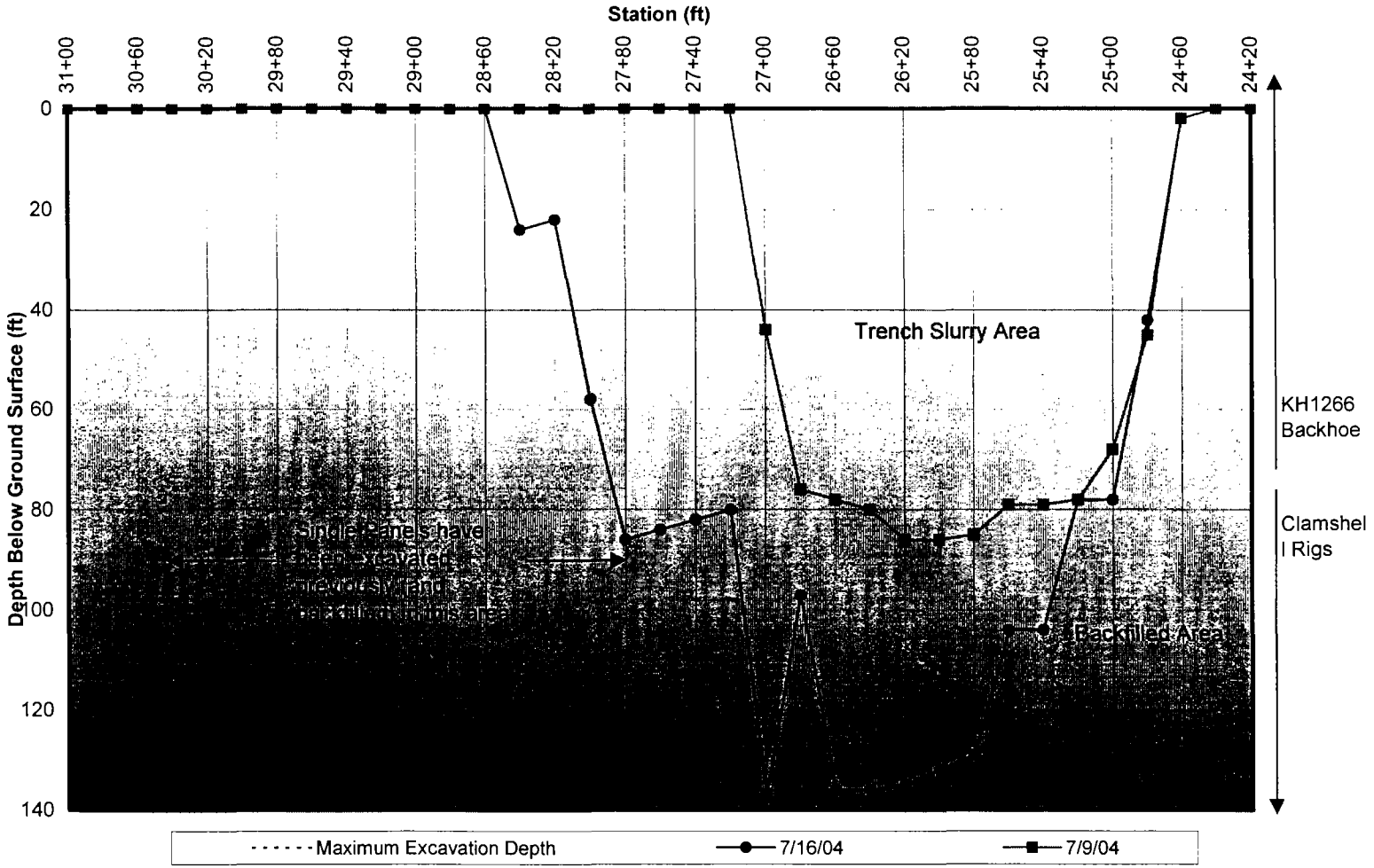
Trench Segment	Station ID	Depth to bottom (ft below ground surface)
Southern Open Trench	5+00	60
	5+20	62
	5+40	60
	5+60	58
	5+80	56
	6+00	55
	7+00	50
	8+00	43
	9+00	33
	10+00	26
	11+00	14
	12+00	24
Northern Open Trench	24+50	3
	24+75	42
	25+00	69
	25+25	77
	25+50	102
	25+75	127
	26+00	132
	26+25	134
	26+50	136
	26+75	97
	27+00	137
	27+25	84
	27+50	83
	27+75	82
	28+00	58
	28+25	24
	28+50	24

Graph 1 - Weekly Barrier Wall Construction Progress - Southern Open Trench Segment
July 10 through July 16, 2004



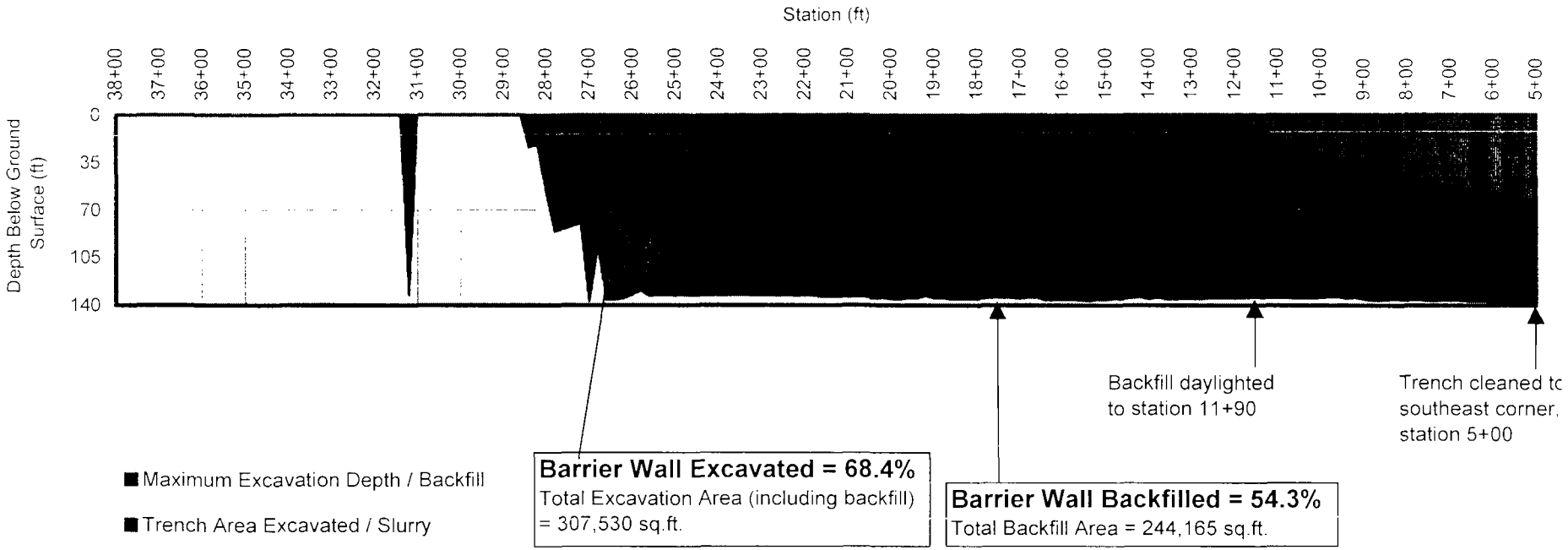
Note: Data plotted for the week through measurements on 7-9-04 and 7-16-04.
Some data points are interpolated between the available data points where trench depth measurements were read.

Graph 2 - Weekly Barrier Wall Construction Progress - Northern Open Trench Segment
July 10 through July 16, 2004



Note: Data plotted for the week through measurements on 7-9-04 and 7-16-04.
Some data points are interpolated between the available data points where trench depth measurements were read.

Graph 3 - Barrier Wall Construction Progress by July 16, 2004 (PM)



Note: Data plotted for week through measurements on 7-16-04.

Photos from July 10, through July 16, 2004:

Excavating with the Koehring 1266 trackhoe in the northern open trench segment
(July 13, 2004)

Night shift work using Liebherr 853 clamshell in northern open trench segment
(July 14, 2004)